

### Abstract

The invention relates to a fuel injection system for internal combustion engines. Via a high-pressure fuel source (2, 81), a fuel injector (1) is supplied with fuel. A pressure booster (5) is disposed between an injection valve (6) and the high-pressure fuel source (2, 81). The pressure booster (5) has a booster piston (12), which divides a pressure chamber (11), which can be connected to the high-pressure fuel source (2, 81), from a high-pressure chamber (20) that acts upon a nozzle chamber (29) of the fuel injector (1). The injection valve (6) of the fuel injector (1) includes a nozzle needle (30), with which injection openings pointing toward a combustion chamber (7) can be opened or closed. The nozzle needle (30) includes a first nozzle needle part (31) and a further, second nozzle needle part (32), which being triggered as a function of pressure open and close various injection cross sections (42, 43) of an injection nozzle (41).

(Fig. 1)